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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/662,158	09/14/2000	Alan R. Poulter	922-108	9624

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EXAMINER	
DUONG, FRANK	

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/662,158	POULTER ET AL.	
	Examiner	Art Unit	
	Frank Duong	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 February 2002 and 27 June 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3 and 6*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is a response to communications dated 09/14/00, 02/22/00 and 06/27/00. Claims 1-40 are pending in the application.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statements filed 03/29/01 and 06/27/02 comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609. They have been considered and placed in the application file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Pearce et al (USP 5,651,003) (hereinafter "Pearce").

Regarding **claim 1**, in accordance with Pearce reference entirety, Pearce discloses a system (Fig. 3) comprising at least three network communication units (32-1-32-8) which have a cascade connection (34 or 36) including at least one connecting unit ((32 and 40) or (32 and 42)), each such connecting unit ((32 and 40) or (32 and 42)) having a first (Fig. 5; 60 and 66), second (Fig. 5; 62 and 68) and a third port (Fig. 5; 64) each having lines (see Fig. 5) for forwarding and receiving data packets and for forwarding and receiving distinctive control messages (*col. 6, lines 15-27 and thereinafter*), a first two network communication units (Fig. 3; 32-1 and (32-2-32-7)) being coupled to the first (40) and third (42) ports of a cascading connecting unit (40 and 42), and a last two network connection units (32-8) being coupled to the second and third (40 and 42) ports of a connecting unit and any intermediate communication unit (32-2-32-7) being coupled to the third port (42) of a respective connecting unit, a data communication path being constituted between the first and last communication units through each connecting unit by way of a first and second ports thereof (*see Fig. 3, Pearce shows dual-ring bus topology of Fig 2 in a stacking configuration*).

Regarding **claim 2**, in addition to features recited in base claim 1 (see rationales discussed above), Pearce further discloses safeguard mechanisms (master switch module and start-up stability) to prevent data cells from endlessly circulating on the dual-ring bus (see col. 7, line 39 to col. 8, line 2). The recitation thereat inherently anticipates the claimed limitations in a manner set forth as claimed.

Regarding **claim 3**, in addition to features recited in base claim 2 (see rationales discussed above), Pearce further discloses wherein each communication unit accommodates an interface (Fig. 4; interface between 52 and 54) which is coupled to a single respective port of a connecting unit (see Fig. 4 and connection between 52 and 54), and includes means for communicating data packets (Fig. 4; 54) between the respective communication unit and the connecting unit having said respective port and means for storing said respective stack identification value and said common value (col. 5, lines 1-27 and col. 6, line 40 to col. 7, line 38).

Regarding **claim 4**, in addition to features recited in base claim 3 (see rationales discussed above), Pearce further discloses wherein said interface is a modular unit removable from the respective communication unit (col. 5, lines 1-27).

Regarding **claim 5**, in addition to features recited in base claim 2 (see rationales discussed above), Pearce further discloses a connecting cable (Fig. 3; 34 or 36) having means for cooperating with a signal state of said control messages to indicate which end of the cable is connected to a selected port (col. 3, line 60 to col. 4, line 67).

Regarding **claim 6**, in accordance with Pearce reference entirety, Pearce discloses a connecting unit (Figs. 3-4) for use in a system (Fig. 3) comprising a plurality of network communication units (32-1-32-8) having a cascade connection (34 or 36) including at least one connecting unit ((32 and 40) or (32 and 42)), the connecting unit ((32 and 40) or (32 and 42)) having three ports consisting of a first (Fig. 5; 60 and 66), second (Fig. 5; 62 and 68) and a third port (Fig. 5; 64) each having lines (see Fig. 5) for forwarding and receiving data packets and for forwarding and receiving control

messages (*col. 6, lines 15-27 and thereinafter*), a first two network communication units (Fig. 3; 32-1 and (32-2-32-7)) being coupled to the first (40) and third (42) ports of a cascading connecting unit (40 and 42), and a last two network connection units (32-8) being coupled to the second and third (40 and 42) ports of a connecting unit and any intermediate communication unit (32-2-32-7) being coupled to the third port (42) of a respective connecting unit, a data communication path being constituted between the first and last communication units through each connecting unit by way of a first and second ports thereof (*see Fig. 3, Pearce shows dual-ring bus topology of Fig 2 in a stacking configuration*).

Regarding **claim 7**, in addition to features recited in base claim 6 (see rationales discussed above), Pearce further discloses wherein the connecting unit is disposed to maintain both forward and return data and control paths between the first and second ports irrespective of the operational state of the communication unit coupled to the third port (see col. 4, lines 10-17, Pearce discloses if one of the unidirectional data bus links is not operational, the data is continued transmitting via the operational ring in the opposite direction).

Regarding **claim 8**, in addition to features recited in base claim 6 (see rationales discussed above), Pearce, as depicted in all figures, does not explicitly shows any source of power supply to units 32-1-32-8. However, it is inherent there is some source of power supply to all the units or cards in a communication equipment in order for them to operate.

Regarding **claim 9**, in addition to features recited in base claim 6 (see rationales discussed above), Pearce implicitly discloses wherein the connecting unit is disposed to determine when the second port is not coupled to a connecting unit and to broadcast a common value representing the number of communication units actively participating in said system (col. 4, lines 10-17 and col. 7, line 39 to col. 8, line 2).

5. Claims 10-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Byham et al (USP 6,594,231) (hereinafter "Byham").

Regarding **claims 10-11**, in accordance with Byham reference entirety, Byham discloses a method for controlling a plurality of network communication units (Fig.1; Units 1-3), which are linked by a cascading connection (see Fig. 1) that provides a communication path (Repeat Path) for data packets from any unit to any other unit, comprising:

establishing a control path (Arbitration Path) for control messages from each unit to the next, the control path being distinct from said communication path;

sending along said control path control messages which include fields denoting an identification (MAC) of a communication unit and a count (BoxID) of communication units which are operative to receive and forward data packets on said communication path; and

for each respective unit (Fig. 1; Unit 1-Unit 3):

altering the identification to denote the respective unit (col. 5, line 40 or col. 6, lines 56-62);

incrementing the said count if the respective unit is operative to receive and forward data packets on said communication path (col. 5, lines 49-65); and

determining when said count is complete and broadcasting a total count by way of control messages on said control path (col. 6, line 47 to col. 7, line 14).

Regarding **claim 12**, in accordance with Byham reference entirety, Byham discloses a hub unit (Fig. 3) having ports 101, 120, 111 and 112 and multiplexers (108 and 117) provide a bypass of a port to which an active communication unit is not coupled (col. 4, lines 20-59).

Regarding **claim 13**, in addition to features recited in base claim 12 (see rationales discussed above), Byham further discloses wherein each port transmits and receives control messages so as to determine the status of a communication unit to which the respective port is connected, the multiplexers being controlled by control logic (107) responsive to the control messages (Fig. 3 and col. 4, lines 20-59).

Regarding **claim 14**, in addition to features recited in base claim 12 (see rationales discussed above), Byham further discloses a configuration packet provided by a unit a repeated mode (depicted in Figure 6), in which the BoxID field is incremented by a unity.

Regarding **claim 15**, in accordance with Byham reference entirety, Byham discloses a connecting unit (Fig. 3) having ports 101, 120, 111 and 112, a control logic (107) and multiplexers (108 and 117) provide a bypass of a port to which an active communication unit is not coupled (col. 4, lines 20-59).

Regarding **claim 16**, in addition to features recited in base claim 15 (see rationales discussed above), Byham further discloses the multiplexers being controlled to bypass a port which an active communication unit is not connected (Fig. 3 and col. 4, lines 20-59).

Regarding **claim 17**, in addition to features recited in base claim 16 (see rationales discussed above), Byham further discloses a configuration packet provided by a unit a repeated mode (depicted in Figure 6), in which the BoxID field is incremented by a unity.

Regarding **claim 18**, in addition to features recited in base claim 15 (see rationales discussed above), Byham further discloses a configuration packet provided by a unit a repeated mode (depicted in Figure 6), in which the BoxID field is incremented by a unity.

Regarding **claim 19**, in accordance with Byham reference entirety, Byham shows (Figs. 1-4) a cascade, stack or ring of hub units and a stackable network unit (Fig. 3) having ports 101, 120, 111 and 112, a control logic (107) and multiplexers (108 and 117) provide a bypass of a port to which an active communication unit is not coupled (col. 4, lines 20-59).

Regarding **claim 20**, in addition to features recited in base claim 19 (see rationales discussed above), Byham also discloses wherein the connecting units (Fig. 3) provide a data path for packets in each of two directions around the ring (see Fig. 1).

Regarding **claim 21**, in addition to features recited in base claim 19 (see rationales discussed above), Byham also discloses wherein for each connecting unit the

control logic receives control messages indicating an identification number and to provide control messages modified to indicate an increase in the identification number (col. 5, lines 61-65 and col. 6, lines 56-62).

Regarding **claim 22**, in addition to features recited in base claim 19 (see rationales discussed above), Byham also discloses wherein for each connecting unit the control logic receives a count which represent a number of active communication units and provides a count which is incremented by unity or not according as an active communication unit is or is not coupled to the third port of the respective connecting unit (col. 5, lines 61-65 and col. 6, lines 56-62).

Regarding **claims 23-26**, see figure 3 and the description at col. 4, line 1 to col. 5, line 48 for the details of hub unit.

(***Note: Claims 27-40 are rejected by the same rationales applied to claims 19-26***)

Regarding **claim 27**, in accordance with Byham reference entirety, Byham discloses a hub unit (Fig. 3) having ports 101, 120, 111 and 112 and multiplexers (108 and 117) and control logic (107) for determining for each port a link status and for controlling the multiplexers to bypass of a port to which an active communication unit is not coupled (col. 4, lines 20-59).

Regarding **claims 28-32**, the claims are rejected by the same rationales applied to claims 18-26 or by the description at col. 4, lines 20-59 and thereinafter.

Regarding **claim 33**, in accordance with Byham reference entirety, Byham discloses a connecting unit (Fig. 3) having ports 101, 120, 111 and 112 and multiplexers

(108 and 117) and control logic (107) for determining for each port a link status and for controlling the multiplexers to bypass of a port to which an active communication unit is not coupled (col. 4, lines 20-59).

Regarding **claims 34-37**, the claims are rejected by the same rationales applied to claims 18-26 or by the description at col. 4, lines 20-59 and thereinafter.

Regarding **claim 38**, in accordance with Byham reference entirety, Byham shows the cascade connection of the hub units in Figures 1, 2 and 4 and discloses the details of a connecting unit (Fig. 3) having ports 101, 120, 111 and 112 and multiplexers (108 and 117) and control logic (107) for determining for each port a link status and for controlling the multiplexers to bypass of a port to which an active communication unit is not coupled (col. 4, lines 20-59).

Regarding **claim 39**, in addition to features recited in base claim 38 (see rationales discussed above), Byham further discloses wherein the control messages include a field (Arb/Gnt) for causing the control logic to treat the reception of control messages as the absence of control messages (col. 5, lines 49-60).

Regarding **claim 40**, in addition to features recited in base claim 38 (see rationales discussed above), Byham further discloses a count which represents a number of active communication units and to provide a count which is incremented or not according as an active communication unit is coupled to the third port (col. 6, lines 56-62).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Brewer et al (USP 6,330,245).

Amicangioli et al (USP 6,327,242).

Chen (USP 6,373,840).

Irwin (USP 6,393,026).

Chin et al (USP 6,314,110).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Duong whose telephone number is (571) 272-3164. The examiner can normally be reached on 7:00AM-3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3174.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frank Duong
Examiner
Art Unit 2666

August 30, 2004